Exhibit C

This claim chart is meant to be illustrative for purposes of meeting Plaintiff's pleading obligations and should not be construed as binding or limiting.

U.S. Patent No. 8,280,932; Claim 1

A computer data processing system comprising:

a) a computer-readable memory configured to store informational objects organized in a hierarchy;

b) a display configured to display information of at least a portion of said hierarchy;

c) an applications program with code configured to:

   i.   render visible information of at least one of said informational objects, with dynamic updating, in a sticky path portion of said display;

   ii. expand said information of at least one of said informational objects; and

   iii. collapse said information of at least one of said informational objects.

This claim chart is meant to be illustrative for purposes of meeting Plaintiff's pleading obligations and should not be construed as binding or limiting.

U.S. Patent No. 8,280,932; Claim 1

A computer data processing system comprising:

a) a computer-readable memory configured to store informational objects organized in a hierarchy;

b) a display configured to display information of at least a portion of said hierarchy;

c) an applications program with code configured to:

    i.   render visible information of at least one of said informational objects, with dynamic updating, in a sticky path portion of said display;

    ii.   expand said information of at least one of said informational objects; and

    iii. collapse said information of at least one of said informational objects.

A computer data processing system comprising:

- Tumblr uses a computer data processing system comprising a computer readable memory, a display (a smartphone, tablet, or computer display), and an application program (e.g., a smartphone/tablet app or browser software).

Software

- OS X for development, Linux (CentOS, Scientific) in production
- Apache
- PHP, Scala, Ruby
- Redis, HBase, MySQL
- Varnish, HA-Proxy, nginx,
- Memcache, Gearman, Kafka, Kestrel, Finagle
- Thrift, HTTP
- Func - a secure, scriptable remote control framework and API
- Git, Capistrano, Puppet, Jenkins

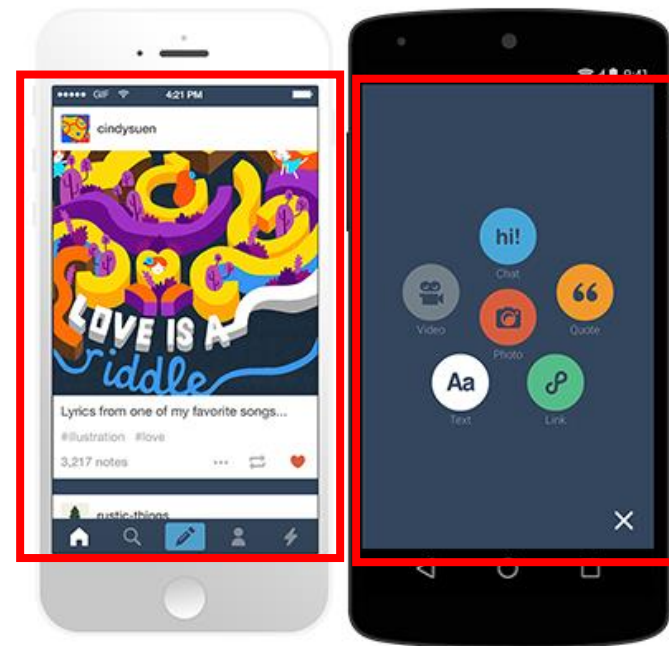Site: http://www.tumblr.com/

Stats

- 500 million page views a day
- 15B+ page views month
- ~20 engineers
- Peak rate of ~40k requests per second
- 1+ TB/day into Hadoop cluster
- Many TB/day into MySQL/HBase/Redis/Memcache
- Growing at 30% a month
- ~1000 hardware nodes in production
- Billions of page visits per month per engineer
- Posts are about 50GB a day. Follower list updates are about 2.7TB a day.
- Dashboard runs at a million writes a second, 50K reads a second, and it is growing.

Mobile

Explore and share from anywhere with our slick mobile apps.

 iPhone & iPad

 Android

https://www.tumblr.com/apps

http://highscalability.com/blog/2012/2/13/tumblr-architecture-15-billion-page-views-a-month-and-harder.html

U.S. Patent No. 8,280,932; Claim 1

A computer data processing system comprising:

a) a computer-readable memory configured to store informational objects organized in a hierarchy;

b) a display configured to display information of at least a portion of said hierarchy;

c) an applications program with code configured to:

    i.   render visible information of at least one of said informational objects, with dynamic updating, in a sticky path portion of said display;

    ii.   expand said information of at least one of said informational objects; and

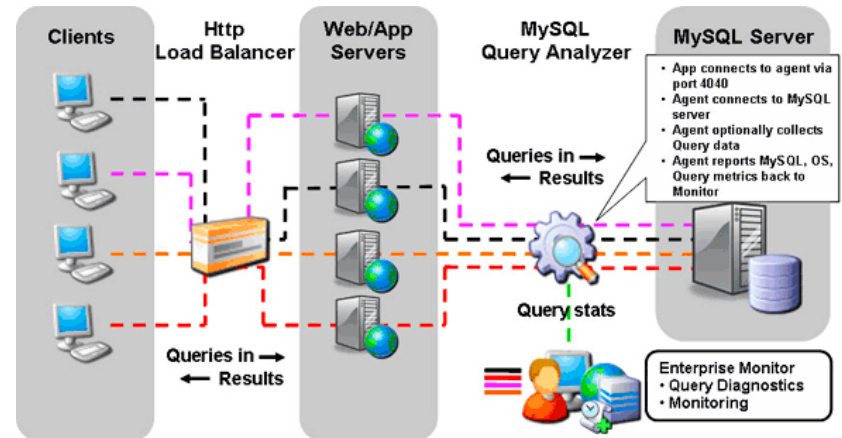   iii. collapse said information of at least one of said informational objects.

a) a computer-readable memory configured to store informational objects organized in a hierarchy; (1 of 2)

Tumblr comprises a computer-readable memory.

Site: http://www.tumblr.com/

Stats

- 500 million page views a day
- 15B+ page views month
- ~20 engineers
- Peak rate of ~40k requests per second
- 1+ TB/day into Hadoop cluster
- Many TB/day into MySQL/HBase/Redis/Memcache
- Growing at 30% a month
- ~1000 hardware nodes in production
- Billions of page visits per month per engineer
- Posts are about 50GB a day. Follower list updates are about 2.7TB a day.
- Dashboard runs at a million writes a second, 50K reads a second, and it is growing.

Clients   **Http Load Balancer**   **Web/App Servers**   **MySQL Query Analyzer**   **MySQL Server**

- App connects to agent via port 4040
- Agent connects to MySQL server
- Agent optionally collects Query data
- Agent reports MySQL, OS, Query metrics back to Monitor

Queries in →
← Results

Queries in →
← Results

Query stats

Enterprise Monitor
- Query Diagnostics
- Monitoring

http://mysql.localhost.net.ar/tech-resources/articles/quan_for_developers.html

http://highscalability.com/blog/2012/2/13/tumblr-architecture-15-billion-page-views-a-month-and-harder.html

a) a computer-readable memory configured to store informational objects organized in a hierarchy; (2 of 2)

The computer-readable memory of Tumblr is configured to store informational objects organized in a hierarchy. As seen, Tumblr is operable to access the computer-readable memory and display the hierarchical relationship (e.g,. sorted chronologically) of the informational objects (e.g., blogs, notes, and other content posts).
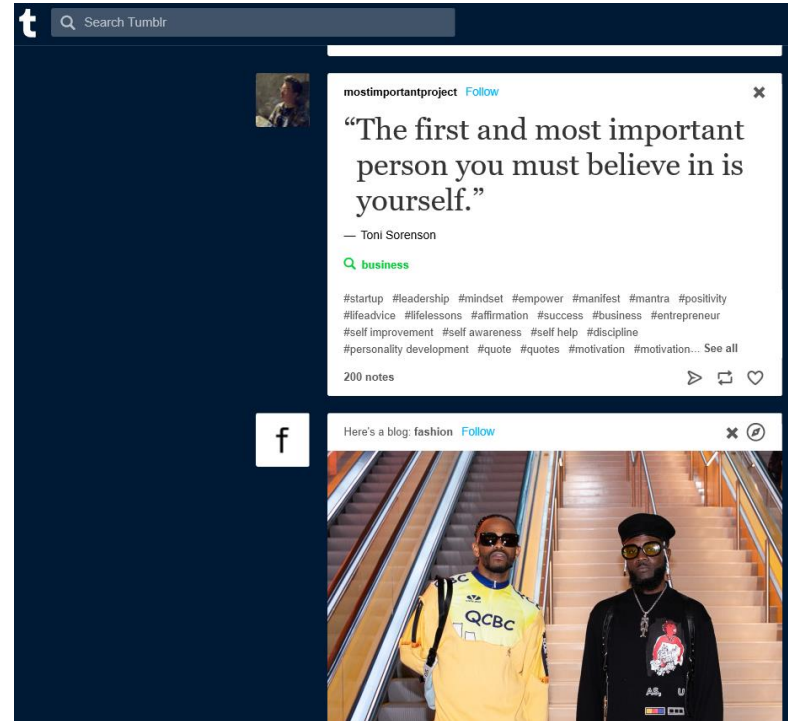
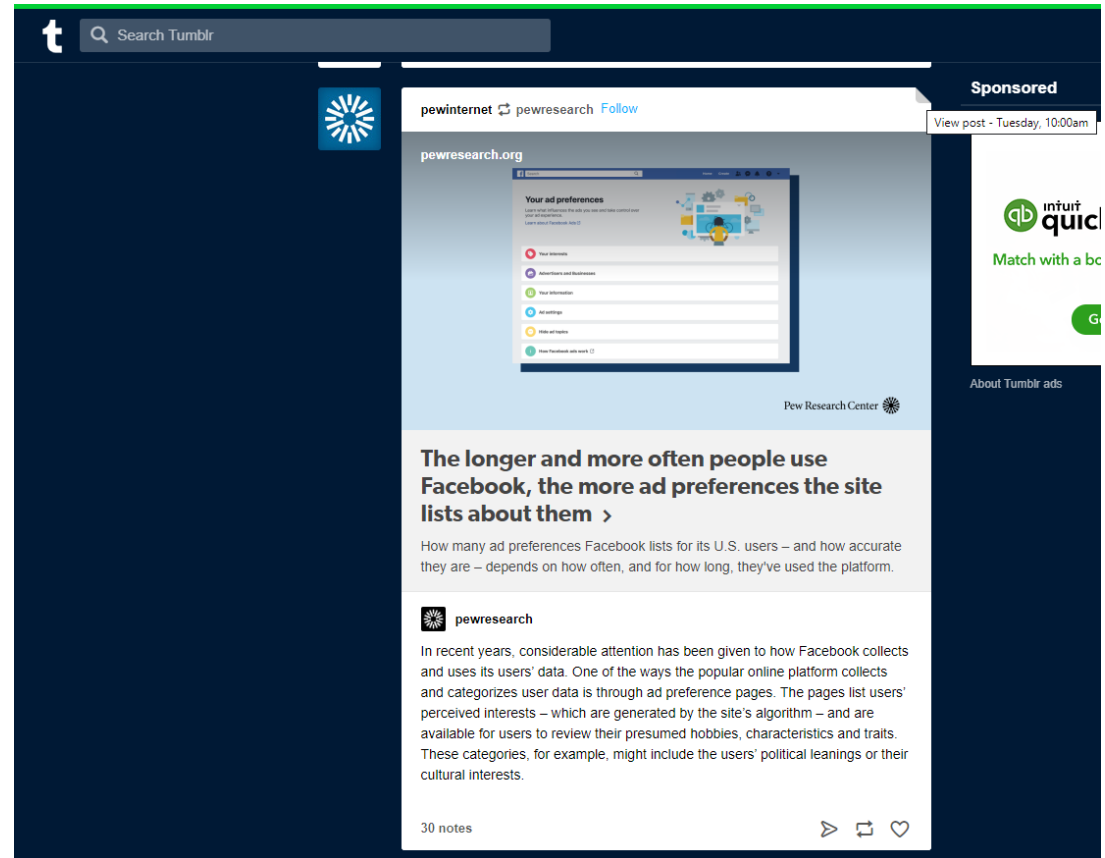https://www.tumblr.com/dashboard

U.S. Patent No. 8,280,932; Claim 1

A computer data processing system comprising:

a) a computer-readable memory configured to store informational objects organized in a hierarchy;

b) **a display configured to display information of at least a portion of said hierarchy;**

c) an applications program with code configured to:

    i.   render visible information of at least one of said informational objects, with dynamic updating, in a sticky path portion of said display;

    ii.   expand said information of at least one of said informational objects; and

    iii. collapse said information of at least one of said informational objects.

b) a display configured to display information of at least a portion of said hierarchy;

Tumblr comprises a display configured to display information of at least a portion of the hierarchy of informational objects. As seen, Tumblr displays several data fields relating to the objects stored in the hierarchy including post source and content, as well as post time.


https://www.tumblr.com/dashboard

U.S. Patent No. 8,280,932; Claim 1

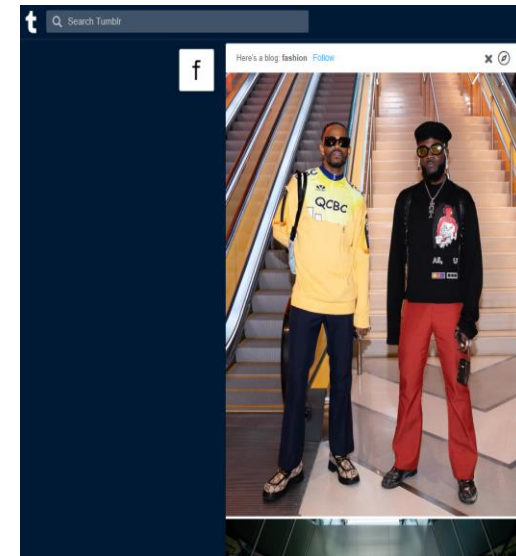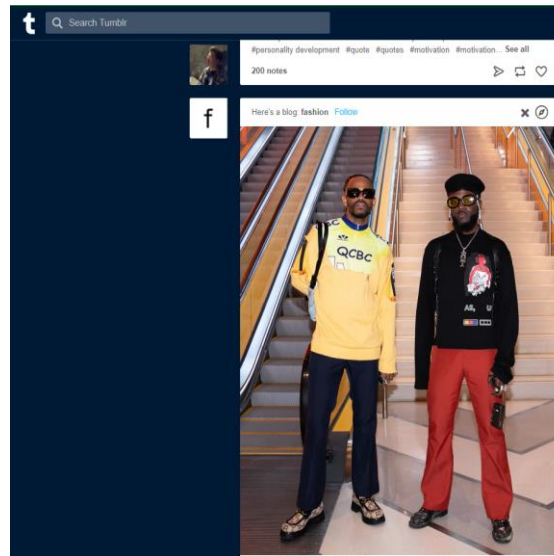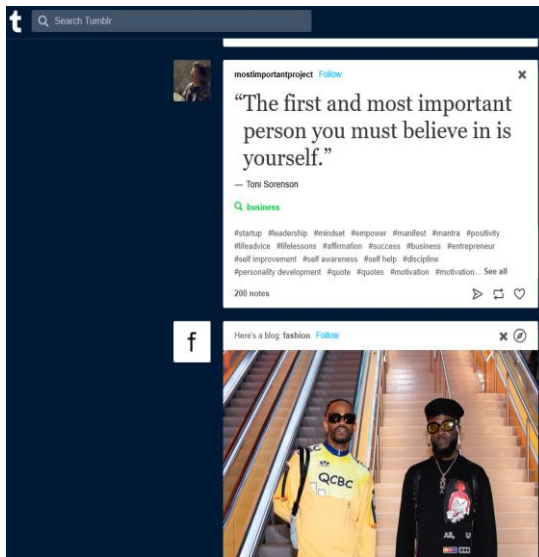A computer data processing system comprising:

a) a computer-readable memory configured to store informational objects organized in a hierarchy;

b) a display configured to display information of at least a portion of said hierarchy;

c) an applications program with code configured to:

    i.   render visible information of at least one of said informational objects, with dynamic updating, in a sticky path portion of said display;

    ii.   expand said information of at least one of said informational objects; and

    iii. collapse said information of at least one of said informational objects.

c) an applications program with code configured to:

> i. render visible information of at least one of said informational objects, with dynamic updating, in a sticky path portion of said display; (1 of 2)

Tumblr includes an applications program operable to render visible-information of one of the informational objects (e.g., the content source) with dynamic updating. As shown below, Tumblr displays the icon of each entity (e.g. " " and " f ") in a sticky path portion of the display. The sticky path portion of the display updates as a user scrolls through the dashboard.

U.S. Patent No. 8,280,932; Claim 1

A computer data processing system comprising:

a) a computer-readable memory configured to store informational objects organized in a hierarchy;

b) a display configured to display information of at least a portion of said hierarchy;

c) an applications program with code configured to:

    i.   render visible information of at least one of said informational objects, with dynamic updating, in a sticky path portion of said display;

    ii.   expand said information of at least one of said informational objects; and

    iii.   collapse said information of at least one of said informational objects.

c) an applications program with code configured to:

> ii. expand said information of at least one of said informational objects; and
> iii. collapse said information of at least one of said informational objects.

Tumblr is further operable to expand and collapse information of at least one of said informational objects (e.g., . hovering over an entity's icon will expand that entity's information in a window; removing the pointer from the entity's icon collapses the window).
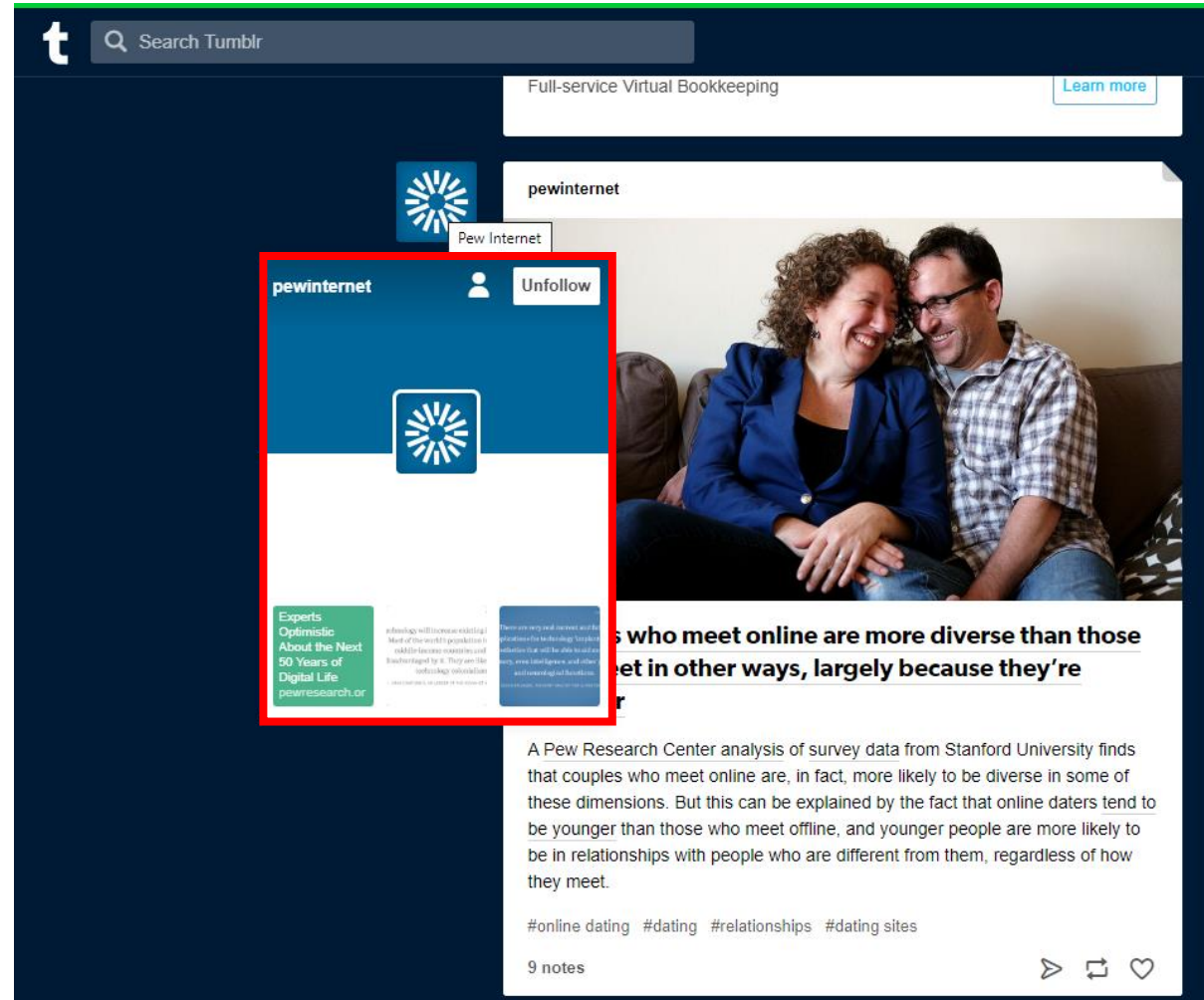
Exhibit D

This claim chart is meant to be illustrative for purposes of meeting Plaintiff's pleading obligations and should not be construed as binding or limiting.

U.S. Patent No. 9,483,169; Claim 6

- A method, comprising:

    - displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers;

    - displaying, in said first area of the display, a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects;

    - displaying, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display; and

    - in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that:

        - i) the current organizational identifier remains in said second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues; and,

        - ii) when the scrolling continues so that a member of the next group of property identifiers of informational objects displayed in said first area of said display, and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of said display, said second area of the display is updated to include the next organizational identifier that is adjacent to said second area of said display;

    - thereby to provide a continuous automatic dynamically-updated display, in said second area of said display, of all organizational identifiers of a presently displayed group of property identifiers of said informational objects in said first area of said display.
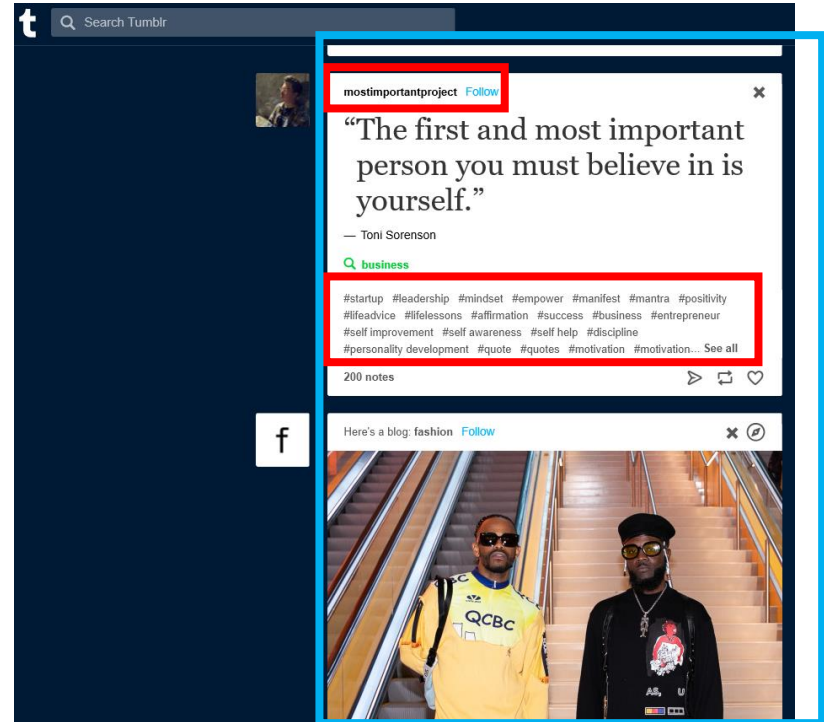
U.S. Patent No. 9,483,169; Claim 6

- A method, comprising:

  - displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers;

  - displaying, in said first area of the display, a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects;

  - displaying, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display; and

  - in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that:

    - i) the current organizational identifier remains in said second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues; and,

    - ii) when the scrolling continues so that a member of the next group of property identifiers of informational objects displayed in said first area of said display, and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of said display, said second area of the display is updated to include the next organizational identifier that is adjacent to said second area of said display;

  - thereby to provide a continuous automatic dynamically-updated display, in said second area of said display, of all organizational identifiers of a presently displayed group of property identifiers of said informational objects in said first area of said display.

A method, comprising:
> displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers; (1 of 2)

Tumblr displays property identifiers of informational objects (e.g., username for the entity that posted content, hashtags associated with posted content) in a first scrollable area of a display of a processor-based device (e.g., a smartphone, tablet, computer).
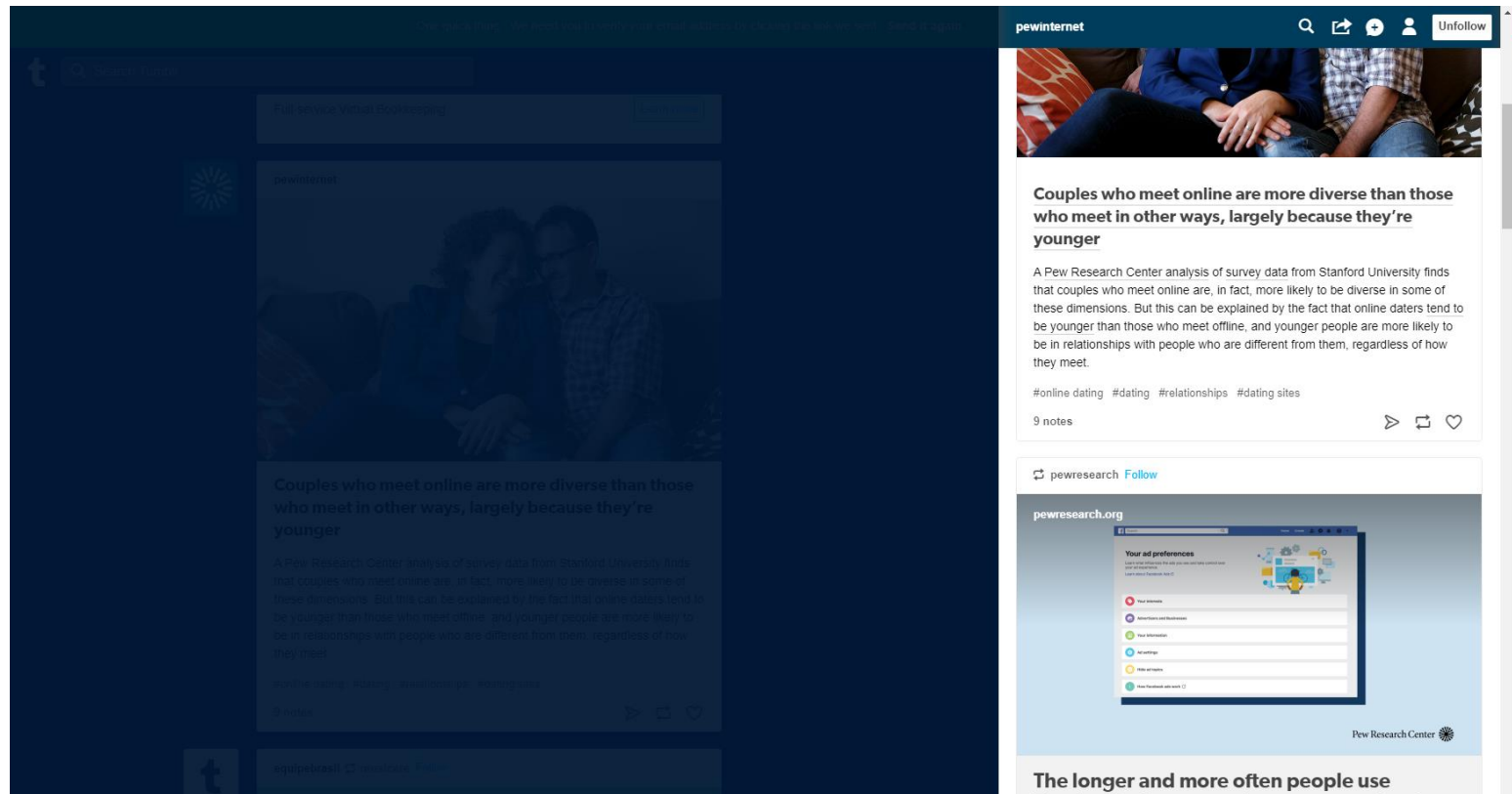

https://www.tumblr.com/dashboard

A method, comprising:
    displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers;
    (2 of 2)

The property identifiers are organized within groups with each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers (e.g. content organized in relation to who posted it, content organized based on hashtags associated with it).
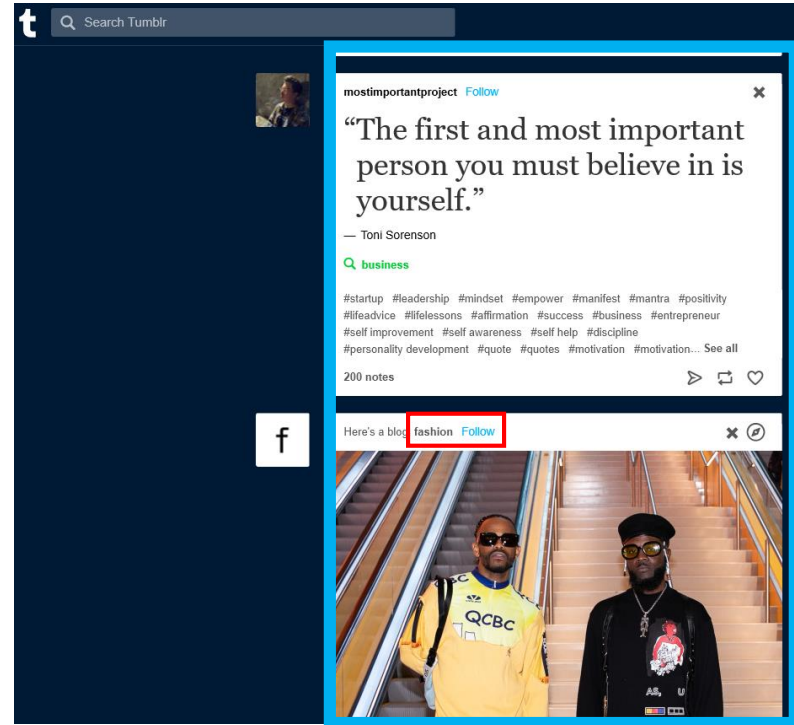
U.S. Patent No. 9,483,169; Claim 6

- A method, comprising:

    - displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers;

    - **displaying, in said first area of the display, a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects;**

    - displaying, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display; and

    - in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that:

        - i) the current organizational identifier remains in said second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues; and,

        - ii) when the scrolling continues so that a member of the next group of property identifiers of informational objects displayed in said first area of said display, and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of said display, said second area of the display is updated to include the next organizational identifier that is adjacent to said second area of said display;

    - thereby to provide a continuous automatic dynamically-updated display, in said second area of said display, of all organizational identifiers of a presently displayed group of property identifiers of said informational objects in said first area of said display.

A method, comprising:

        displaying, in said first area of the display, a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects;

In the first area of the display Tumblr displays a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects (e.g., entity who posted the next content displayed).
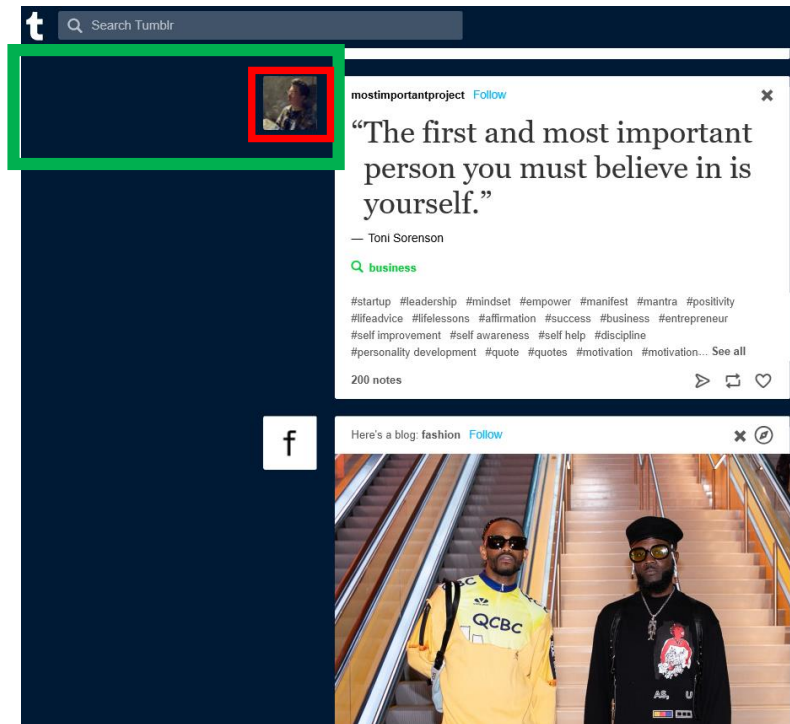

https://www.tumblr.com/dashboard

U.S. Patent No. 9,483,169; Claim 6

- A method, comprising:

    - displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers;

    - displaying, in said first area of the display, a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects;

    - displaying, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display; and

    - in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that:

        - i) the current organizational identifier remains in said second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues; and,

        - ii) when the scrolling continues so that a member of the next group of property identifiers of informational objects displayed in said first area of said display, and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of said display, said second area of the display is updated to include the next organizational identifier that is adjacent to said second area of said display;

    - thereby to provide a continuous automatic dynamically-updated display, in said second area of said display, of all organizational identifiers of a presently displayed group of property identifiers of said informational objects in said first area of said display.

> A method, comprising:
>
> displaying, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display; and

Tumblr displays, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display.
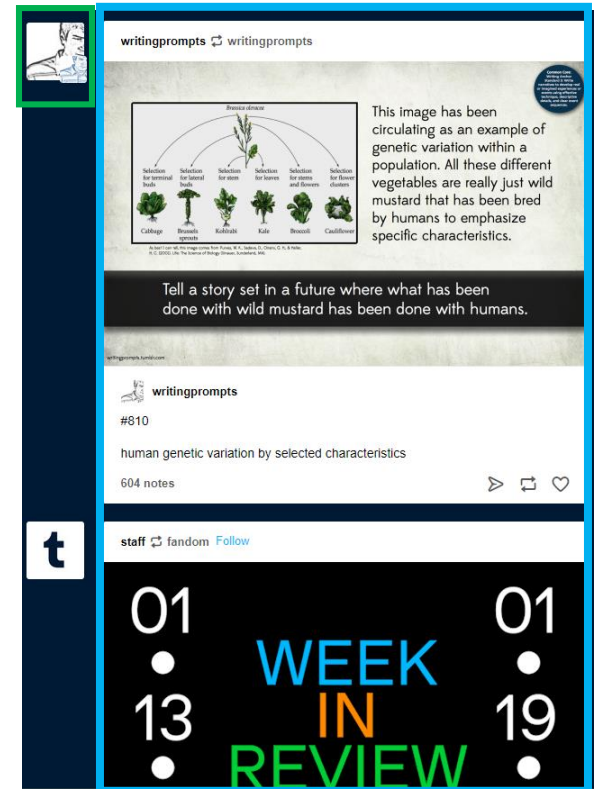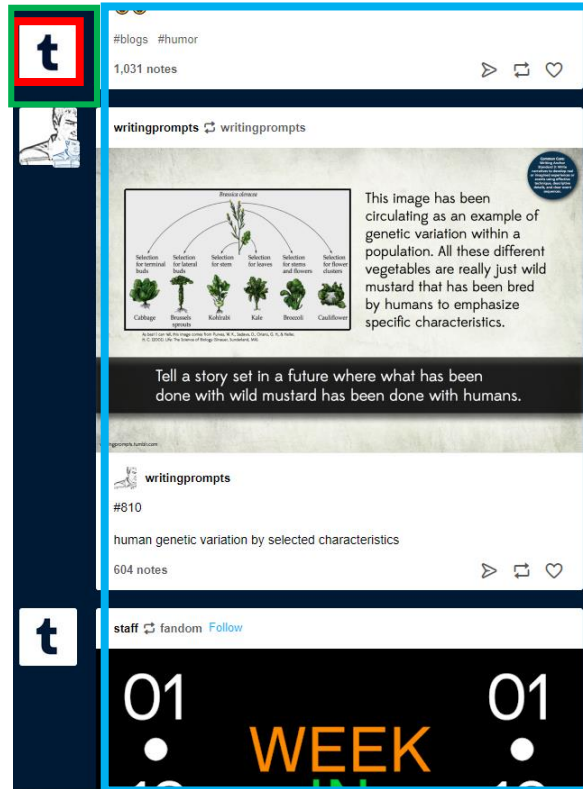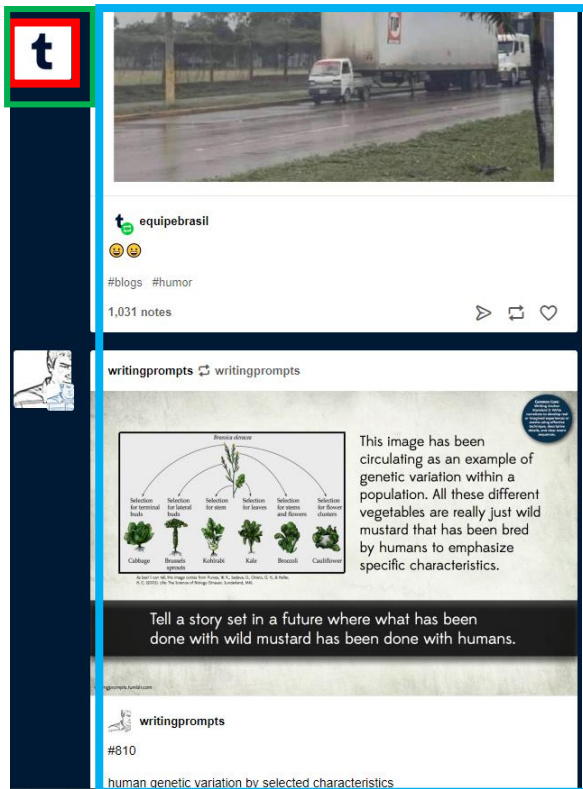

https://www.tumblr.com/dashboard

U.S. Patent No. 9,483,169; Claim 6

- A method, comprising:

    - displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers;

    - displaying, in said first area of the display, a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects;

    - displaying, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display; and

    - in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that:

        - i) the current organizational identifier remains in said second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues; and,

        - ii) when the scrolling continues so that a member of the next group of property identifiers of informational objects displayed in said first area of said display, and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of said display, said second area of the display is updated to include the next organizational identifier that is adjacent to said second area of said display;

    - thereby to provide a continuous automatic dynamically-updated display, in said second area of said display, of all organizational identifiers of a presently displayed group of property identifiers of said informational objects in said first area of said display.

in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that:

    i) the current organizational identifier remains in said second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues; and,

In response to user scrolling, displayed ones of said property identifiers of informational objects (e.g., username for entity that posted content, hashtags associated with posted content) and next organizational identifier (e.g., user who posted the next content displayed) in the first area of the display are changed, and the current organizational identifier in the second area of the display is dynamically updated. As shown below, the current organizational identifier remains in the second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues.

U.S. Patent No. 9,483,169; Claim 6

- A method, comprising:

    - displaying property identifiers of informational objects in a first scrollable area of a display of a processor-based device, the property identifiers organized within groups, each respective one of said groups described by a characteristic of those of the property identifiers that comprise the respective group of property identifiers;

    - displaying, in said first area of the display, a next organizational identifier associated with a next one of the groups of said property identifiers of informational objects;

    - displaying, in a second, independently scrollable area of the display, a current organizational identifier that identifies a current group of property identifiers of informational objects displayed in the first area of the display that is presently displayed adjacent to said second area of the display; and

    - in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that:

        - i) the current organizational identifier remains in said second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues; and,

        - ii) when the scrolling continues so that a member of the next group of property identifiers of informational objects displayed in said first area of said display, and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of said display, said second area of the display is updated to include the next organizational identifier that is adjacent to said second area of said display;

    - thereby to provide a continuous automatic dynamically-updated display, in said second area of said display, of all organizational identifiers of a presently displayed group of property identifiers of said informational objects in said first area of said display.

in response to a user scrolling action, changing the displayed ones of said property identifiers of informational objects and next organizational identifier in said first area of the display, and updating dynamically the displaying of the current organizational identifier in the second area of said display such that

…

ii) when the scrolling continues so that a member of the next group of property identifiers of informational objects displayed in said first area of said display, and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of said display, said second area of the display is updated to include the next organizational identifier that is adjacent to said second area of said display;

thereby to provide a continuous automatic dynamically-updated display, in said second area of said display, of all organizational identifiers of a presently displayed group of property identifiers of said informational objects in said first area of said display.

As shown below, when a user's scrolling continues so that a member of the next group of property identifiers of information objects displayed in the first area of the display and the next organizational identifier of the next one of the groups of property identifiers of informational objects is adjacent to said second area of the display (e.g., the content posted by writing prompts in the example below) the current organizational identifier remains in the second area so long as members of the current group of property identifiers of informational objects remain displayed in the first area of the display as scrolling continues.